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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WACHTEL, ALEXIS A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,037

Applicant(s)

SUPPONEN, ESA

Examiner

Alexis Wachtel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4-11-05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Detailed Action

Response to Amendment

1. Applicant's amendment and accompanying Remarks filed 4-11-05 have been entered and carefully considered.

The amendment is sufficient to overcome the anticipation and obviousness rejections of claims 1-9. Applicant's arguments are rendered moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,156,815 to Streetman et al in view of US 5,681,535 to Clampitt.

With respect to claim 1, Streetman et al teach a cracker apparatus, comprising

a) a container (16) for providing at least one gaseous crackable source material, which source material container is formed as a mainly cylindrical vessel having a closed first end part (Fig.2, right closed end of item 16) and at least substantially open second end part (Fig.2, item 22) and a mainly cylindrical mantle (Fig.2, item 16) part between said end parts, said open second end part forming an outlet opening through which said gaseous crackable source material is arranged to flow out from said container,

b) dispenser means (20) for receiving said gaseous crackable source material from said container, said dispenser means comprising dispenser valve means (112) for controlling the flow of said gaseous crackable source material through said dispenser means;

c) cracker means (14) for receiving said at least one gaseous crackable source material from said dispenser means.

Streetman et al do not teach that said second end part of the source material container is arranged to be detachably coupled to said dispenser means, and the supply of new source material into the source material container is arranged through said outlet opening when said container is detached from the dispenser means. Clampitt teaches a cracker apparatus wherein the cracker means is detachable coupled to dispenser means by means of a suitable socket joint (Col 2, lines 60-65). In view of this conceptual teaching, it would have been obvious to have modified the apparatus of Streetman et al such that cracker means is detachable from a source material container in order to allow for rapid replacement of crackable feed material.

With respect to claim 2, Streetman et al teach that the interior of the source material container is reachable only through said outlet opening (Fig.2).

With respect to claim 3, Streetman et al teach that the area of said outlet opening covers substantially the whole cross-sectional area of said second end part (Fig.2, item 22 has diameter of item 16).

With respect to claim 4, Streetman et al teach that an electrical heating means (30) is arranged around at least a substantial part of the source material container.

With respect to claim 5, Streetman et al do not teach that a vacuum vessel means is arranged detachably around the source material container and around the electrical heating means whereby a vacuum zone is formed around at least a substantial part of the source material container. Clampitt teaches a cracker apparatus wherein the cracker means is detachable coupled to dispenser means by means of a suitable socket joint (Col 2, lines 60-65). In view of this conceptual teaching, it would have been obvious to have modified the apparatus of Streetman et al such that cracker means is detachable from a source material container in order to allow for rapid replacement of crackable feed material. Modifying the cracker apparatus such that the source material container is removable would provide a vacuum space between (Streetman et al, 70 and 16).

With respect to claim 6, Streetman et al teach that the electrical heating means (30) is arranged detachably around at least a substantial part of the source material container. Examiner notes that the electrical heating means is capable of being detached.

With respect to claim 8, the apparatus disclosed by Streetman et al is capable of using arsenic as a crackable source material.

With respect to claim 9, Streetman et al teach a cracker source material container (16) for providing at least one gaseous crackable source material for cracker means, which source material is formed as a mainly cylindrical vessel having a closed first end part (Fig.2, right closed end of item 16) and at least substantially open second end part (Fig.2, item 22) and a mainly cylindrical mantle (Fig.2, item 16) part between

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said end parts, said open second end part forming an outlet opening through which said gaseous crackable source material is arranged to flow out from said container into said cracker means.

Streetman et al do not teach that source material container is detachable from the rest of the cracker apparatus. Clampitt teaches a cracker apparatus wherein the cracker means is detachable coupled to dispenser means by means of a suitable socket joint (Col 2, lines 60-65). In view of this conceptual teaching, it would have been obvious to have modified the apparatus of Streetman et al such that cracker means is detachable from a source material container in order to allow for rapid replacement of crackable feed material. With this modification, material to be cracked can be provided to the source material container when said container is detached.

With respect to claim 7, Streetman et al teach a cracking apparatus that includes electrical supply conduits (40,42) attached to electrical connection leads (44,46). Buses (32) direct electrical energy into ribbon (30) located inside vacuum vessel which functions. Since Streetman et al establishes the conventionality of providing electricity to a vacuum vessel, it would have been an obvious matter of design choice to have configured the airtight connector as disclosed by Streetman et al such that the resultant apparatus has two substantially concentric metal circles arranged on the outside of the first end part of the source material container, the metal circles arranged in galvanic contact with the electrical heating means, and at least two metal rods arranged on the inside of the vacuum vessel means, said metal rods being arranged on the inside of the vacuum vessel means, said metal rods being arranged into galvanic contact with said

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metal circles when the vacuum vessel means is attached hermetically around the source material container, whereby electrical power for the electrical heating means is arranged from the outside of the vacuum vessel means via said metal rods and said metal circles since such a reconfiguration is a mere conceptual variation of the electrical delivery system disclosed by Streetman et al.

Conclusion


4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Wachtel whose telephone number is 571-272-1455. The examiner can normally be reached on 10:30am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Glenn Caldarola, can be reached at (571)-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent

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Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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